

LISTING OF CLAIMS:

Claims 1-19: (Cancelled).

Claim 20 (currently amended): ~~The process of claim 18,~~

A process for the aerobic treatment in a biosolids treatment reactor of a biosolids solution comprising the products of waste water treatment and thermophilic bacteria capable of digesting mesophilic bacteria, said process comprising:

(a) mixing a portion of the biosolids solution with an oxygen-containing gas stream using a jet aeration device;

(b) monitoring at least one physical property indicative of oxygen demand of the biosolids solution;

(c) adjusting the mixing of biosolids solution with the oxygen-containing gas stream by the jet-aeration device such that sufficient oxygen is supplied to satisfy oxygen demand,

wherein the monitoring step comprises monitoring the temperature and the oxygen/reduction potential of the biosolids solution.

Claim 21 (withdrawn): A process for the aerobic treatment of a biosolids solution comprising mesophilic and thermophilic bacteria, the process comprising:

(a) sensing oxygen/reduction potential of the biosolids solution;

(b) determining oxygen demand of the biosolids solution based upon the starting oxygen/reduction potential;

(c) adjusting a supply of oxygen to the biosolids solution so that sufficient oxygen is supplied to satisfy oxygen demand;

(d) thereafter reducing the supply of oxygen.

Claim 22 (withdrawn): The process of claim 21, wherein steps (a) through (c) are repeated at least once.

Claim 23 (previously presented): An apparatus for aerobic treatment of waste water treatment biosolids comprising:

a reactor having an inlet for the introduction of biosolids;

a jet aeration device within the reactor;

means for automatically sensing and controlling the temperature of the solution within the reactor; and

means for automatically sensing and controlling the oxygen/reduction potential of the solution within the reactor, both of said means being operatively attached to jet aeration device so that based on the temperature and oxygen/reduction potential of the biosolids solution, the means will adjust the oxygen supply to the reactor.

Claim 24 (currently amended): An apparatus for aerobic treatment of biosolids comprising:

means for concentrating a biosolids solution;

a reactor fluidly connected to said means for concentrating;

a jet aeration device within the reactor;

means for sensing oxygen/reduction potential of the biosolids solution within the reactor;

means for adjusting the jet aeration device in response to the sensed oxygen/reduction potential of the biosolids solution in the reactor.

Claim 25 (new): A process for the aerobic treatment in a biosolids treatment reactor of a biosolids solution comprising the products of waste water treatment and thermophilic bacteria capable of digesting mesophilic bacteria, said process comprising:

(a) mixing a portion of the biosolids solution with an oxygen-containing gas stream using an aeration device;

(b) monitoring the temperature and the oxygen/reduction potential of the biosolids solution;

(c) adjusting the mixing of biosolids solution with the oxygen-containing gas stream by the aeration device such that sufficient oxygen is supplied to satisfy oxygen demand.

Claim 26 (new): An apparatus for aerobic treatment of waste water treatment biosolids comprising:

a reactor having an inlet for the introduction of biosolids;

an aeration device within the reactor;

means for automatically sensing and controlling the temperature of the solution within the reactor; and

means for automatically sensing and controlling the oxygen/reduction potential of the solution within the reactor, both of said means being operatively attached to the aeration device so that based on the temperature and oxygen/reduction potential of the biosolids solution, the means will adjust the oxygen supply to the reactor.

Claim 27 (new): A process for the aerobic treatment in a biosolids treatment reactor of a biosolids solution comprising the products of waste water treatment and thermophilic bacteria capable of digesting mesophilic bacteria, said process comprising:

(a) mixing a portion of the biosolids solution with an oxygen-containing gas stream using an aeration device;

(b) monitoring the temperature and the oxygen/reduction potential of the biosolids solution;

(c) when the oxygen/reduction potential of the biosolids solution is below a predetermined level,

reducing the airflow through the aeration device into the biosolids solution;

(d) when the temperature of the biosolids solution is below a predetermined level, increasing the amount of shear generated through the aeration device.

Claim 28 (new): An apparatus for aerobic treatment of waste water treatment biosolids comprising:

a reactor having an inlet for the introduction of biosolids;

an aeration device within the reactor;

a pump operatively connected to the aeration device to supply oxygen-containing gas to the reactor through the aeration device;

a temperature sensor within the reactor;

an oxidation/reduction potential sensor within the reactor;

a pump controller that is connected to the temperature sensor and the oxygen/reduction potential sensor, the pump controller being operatively attached to the aeration device so that based on the temperature and oxygen/reduction potential of the

biosolids solution, the pump controller will adjust the supply of oxygen-containing gas to the reactor.